U.S. DEPARTMENT OF COMMERCE
National Technical Information Service

PB-252 072

NOTTELY RESERVOIR, UNION COUNTY, GEORGIA

PACIFIC NORTHWEST ENVIRONMENTAL RESEARCH LABORATORY

PREPARED FOR
NATIONAL ENVIRONMENTAL RESEARCH CENTER

JUNE 1975

124125

PB 252 072

REPORT
ON
NOTTELY RESERVOIR
UNION COUNTY
GEORGIA
EPA REGION IV
WORKING PAPER No. 291

WITH THE COOPERATION OF THE

GEORGIA DEPARTMENT OF NATURAL RESOURCES

AND THE

GEORGIA NATIONAL GUARD

JUNE, 1975

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U. S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

TECHNICAL REPORT DATA

(Please read Instructions on the reverse before completing)

1. REPORT NO.

2.

3. RECIPIENT'S ACCESSION NO.

4. TITLE AND SUBTITLE
Report on Nottely Reservoir, Union County, Georgia.

5. REPORT DATE
Prepared June 1975

6. PERFORMING ORGANIZATION CODE

7. AUTHOR(S)
Anonymous (National Eutrophication Survey Staff)

8. PERFORMING ORGANIZATION REPORT NO.
Working Paper #291

9. PERFORMING ORGANIZATION NAME AND ADDRESS
National Eutrophication Survey
U.S. Environmental Protection Agency
200 S. W. 35th St.
Corvallis, Oregon 97330

10. PROGRAM ELEMENT NO.

11. CONTRACT/GRANT NO.

12. SPONSORING AGENCY NAME AND ADDRESS
Office of Research and Development
U.S. Environmental Protection Agency
401 M Street, S. W.
Washington, DC 20460

13. TYPE OF REPORT AND PERIOD COVERED
Final - 1973

14. SPONSORING AGENCY CODE

15. SUPPLEMENTARY NOTES
Prepared in cooperation with the U.S. Environmental Protection Agency, National Environmental Research Center, Las Vegas, Nevada 89114

16. ABSTRACT

Annual total phosphorus and total nitrogen loadings to the lake were estimated and subdivided according to either point or non-point source origin. An assessment of the lake's trophic condition and limiting nutrient is also provided. All data collected by the U.S.E.P.A. National Eutrophication Survey during the one year study of the lake and its tributaries are included in the report.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
eutrophication lakes nutrients phosphorus nitrogen loading		05B 05C

PRICES SUBJECT TO CHANGE

18. DISTRIBUTION STATEMENT	19. SECURITY CLASS (This Report)	21. NO. OF PAGES
Release unlimited		42
	20. SECURITY CLASS (This page)	22. PRICE 4.00-2.25

i.

EPA Form 2220-1 (9-73)

CONTENTS

	Page
Foreword	ii
List of Georgia Study Lakes	iv
Lake and Drainage Area Map	v
Sections	
I. Conclusions	1
II. Lake and Drainage Basin Characteristics	4
III. Lake Water Quality Summary	5
IV. Nutrient Loadings	10
V. Literature Reviewed	15
VI. Appendices	16

FOREWORD

The National Eutrophication Survey was initiated in 1972 in response to an Administration commitment to investigate the nationwide threat of accelerated eutrophication to fresh water lakes and reservoirs.

OBJECTIVES

The Survey was designed to develop, in conjunction with state environmental agencies, information on nutrient sources, concentrations, and impact on selected freshwater lakes as a basis for formulating comprehensive and coordinated national, regional, and state management practices relating to point-source discharge reduction and non-point source pollution abatement in lake watersheds.

ANALYTIC APPROACH

The mathematical and statistical procedures selected for the Survey's eutrophication analysis are based on related concepts that:

a. A generalized representation or model relating sources, concentrations, and impacts can be constructed.

b. By applying measurements of relevant parameters associated with lake degradation, the generalized model can be transformed into an operational representation of a lake, its drainage basin, and related nutrients.

c. With such a transformation, an assessment of the potential for eutrophication control can be made.

LAKE ANALYSIS

In this report, the first stage of evaluation of lake and watershed data collected from the study lake and its drainage basin is documented. The report is formatted to provide state environmental agencies with specific information for basin planning [§303(e)], water quality criteria/standards review [§303(c)], clean lakes [§314(a,b)], and water quality monitoring [§106 and §305(b)] activities mandated by the Federal Water Pollution Control Act Amendments of 1972.

Beyond the single lake analysis, broader based correlations between nutrient concentrations (and loading) and trophic condition are being made to advance the rationale and data base for refinement of nutrient water quality criteria for the Nation's fresh water lakes. Likewise, multivariate evaluations for the relationships between land use, nutrient export, and trophic condition, by lake class or use, are being developed to assist in the formulation of planning guidelines and policies by EPA and to augment plans implementation by the states.

ACKNOWLEDGMENT

The staff of the National Eutrophication Survey (Office of Research & Development, U. S. Environmental Protection Agency) expresses sincere appreciation to the Georgia Department of Natural Resources for professional involvement and to the Georgia National Guard for conducting the tributary sampling phase of the Survey.

Joe D. Tanner, Commissioner of the Department of Natural Resources; J. Leonard Ledbetter, Director of the Environmental Protection Division; Ralph S. Howard, Jr., Environmental Affairs Coordinator; Gene B. Welsh, Chief of the Water Protection Branch; Edward T. Hall, Jr., Unit Coordinator; and Broughton A. Caldwell, R. Marshall Gaddis, William D. Kennedy, and Kenneth W. Martin, Environmental Specialists, provided invaluable lake documentation and counsel during the Survey, reviewed the preliminary lake reports, and provided critiques most useful in the preparation of this Working Paper series.

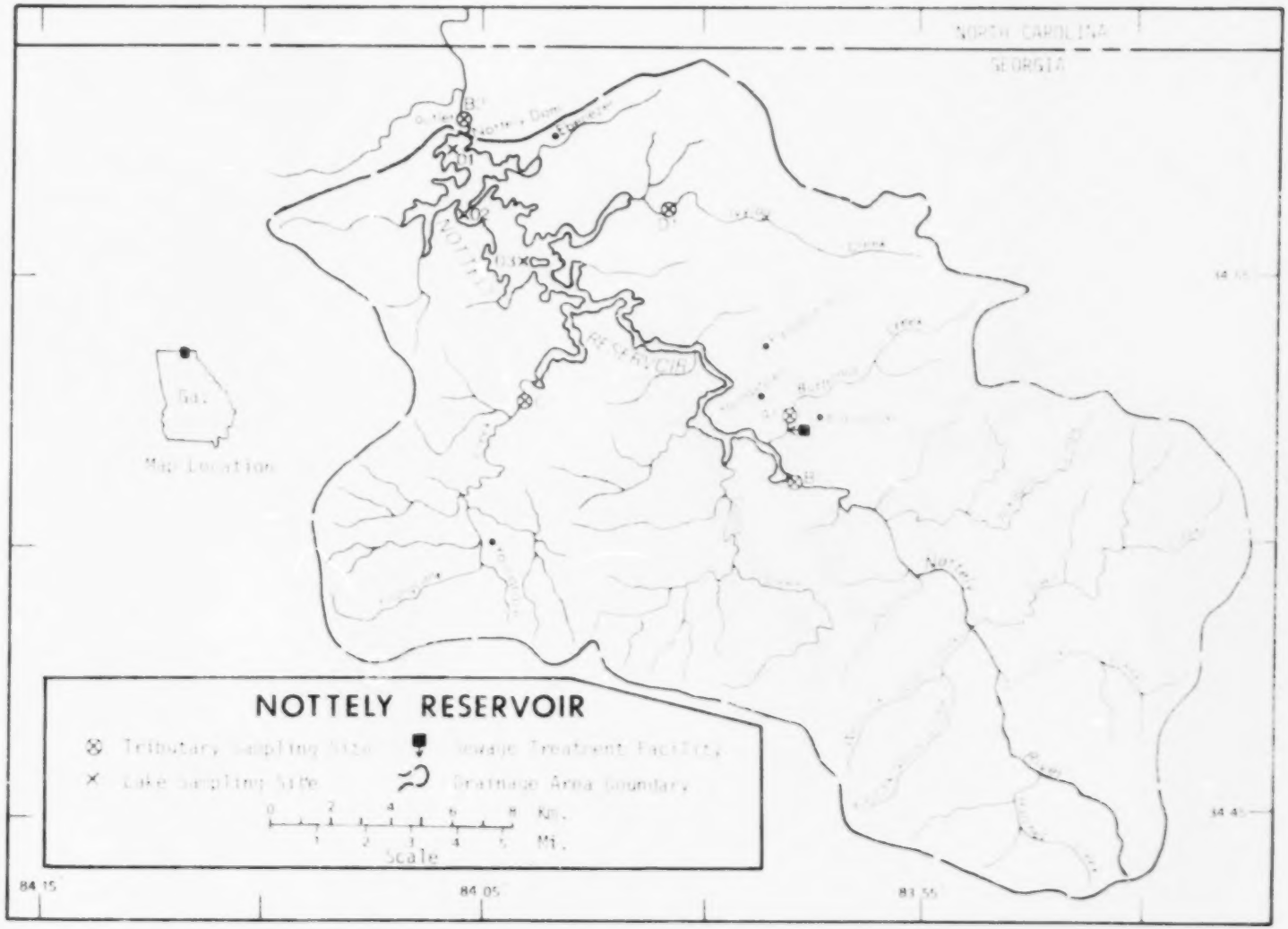
Major General Joel B. Paris, III, then the Adjutant General of Georgia, and Project Officer Lt. Colonel John R. Ranier, who directed the volunteer efforts of the Georgia National Guardsmen, are also gratefully acknowledged for their assistance to the Survey.

NATIONAL EUTROPHICATION SURVEY

STUDY LAKES

STATE OF GEORGIA

LAKE NAME	COUNTY
Allatoona	Bartow, Cherokee, Cobb
Blackshear	Crisp, Dooly, Lee, Sumpter, Worth
Blue Ridge	Fannin
Burton	Rabun
Chatuge	Towns, GA; Clay, NC
Clark Hill	Columbia, Elbert, Lincoln, McDuffie, Wilks, GA; Abbeville, McCormick, SC
Harding	Harris, GA; Chambers, Lee, AL
Hartwell	Franklin, Hart, Stephens, GA; Anderson, Oconee, Pickens, SC
High Falls	Butts, Lamar, Monroe
Jackson	Butts, Jasper, Newton
Nottely	Union
Seminole	Decatur, Seminole, GA; Jackson, FL
Sidney Lanier	Dawson, Forsyth, Gwinnett, Hall, Lumpkin
Sinclair	Baldwin, Hancock, Putnam
Walter F. George	Clay, Quitman, Stewart, GA; Barbour, Henry, Russell, AL


NORTH CAROLINA
GEORGIA
Ga.
Map Location
NOTTELY RESERVOIR
Tributary Sampling Site
Lake Sampling Site
Sewage Treatment Facility
Drainage Area Boundary
0 2 4 6 8 Km.
1 2 3 4 5 Mi.
Scale
84 15
84 05
83 55
34 55
34 45

NOTTELY RESERVOIR*

STORET NO. 1311

I. CONCLUSIONS

A. Trophic Condition:

Survey data indicate that Nottely Reservoir is mesotrophic. It ranked fourth in overall trophic quality when all 14 Georgia lakes sampled in 1973 were compared using a combination of six parameters**. Three of the lakes had less median total phosphorus, one had less and two had the same median dissolved phosphorus, four had less median inorganic nitrogen, five had less mean chlorophyll a, and four had greater mean Secchi disc transparency.

Depression of dissolved oxygen occurred in the thermocline and hypolimnion at all sampling stations in June, and oxygen depletion occurred in the hypolimnion at all stations in September.

No algal blooms or aquatic vegetation were observed by Survey limnologists, and personnel of the Georgia Department of Natural Resources know of no problems in the reservoir (Hall, 1975).

B. Rate-Limiting Nutrient:

The algal assay results indicate that Nottely Reservoir was limited by phosphorus at the time the assay sample was

* Table of metric conversions--Appendix A.
** See Appendix B.

collected. These results are substantiated by the reservoir data; i.e., the mean N/P ratios were 16/1 or greater at all sampling times.

C. Nutrient Controllability:

1. Point sources--During the sampling year, the estimated phosphorus contribution from point sources, including septic tanks, amounted to 4.5% of the total load. The Blairsville wastewater treatment plant is estimated to have contributed 4.2% of this total.

The present total phosphorus loading rate of 0.75 $g/m^2/yr$ is below the rate proposed by Vollenweider (Vollenweider and Dillon, 1974) as a eutrophic rate but greater than his proposed oligotrophic rate; i.e., a mesotrophic rate (see page 14). Complete removal of point-source phosphorus loads would reduce the loading rate to 0.72 $g/m^2/yr$ but probably would not result in a significant change in the trophic condition of this reservoir.

2. Non-point sources--The phosphorus contribution from non-point sources, including precipitation, amounted to 95.5% of the total load during the sampling year. Nottely Creek contributed 44.6%, Youngcane Creek contributed 11.9%, and the remaining two tributaries contributed 9.0%, collectively. The ungaged tributaries were estimated to have contributed 27.7%.

The phosphorus export rates of the Nottely Reservoir tributaries ranged from 12 to 27 $kg/km^2/yr$ with a mean of 20 $kg/km^2/yr$ (see page 14). These rates compare well with the export rates of tributaries to nearby Blue Ridge Lake* (range of 9 to 27 $kg/km^2/yr$; mean of 18 $kg/km^2/yr$) and Chatuge Lake** (range of 14 to 24 $kg/km^2/yr$; mean of 21 $kg/km^2/yr$).

---

* Working Paper No. 284.
** Working Paper No. 286.

II. LAKE AND DRAINAGE BASIN CHARACTERISTICS

A. Lake Morphometry†:

1. Surface area: 17.36 kilometers^2.

2. Mean depth: 13.1 meters.

3. Maximum depth: >36.6 meters.

4. Volume: 227.416 x 10^6 m^3.

5. Mean hydraulic retention time: 231 days.

B. Tributary and Outlet:
(See Appendix C for flow data)

1. Tributaries -

Name	Drainage area (km^2)*	Mean flow (m^3/sec)*
Butternut Creek	31.1	0.5
Nottely River	217.3	5.6
Youngcane Creek	71.5	1.4
Ivylog Creek	43.3	0.8
Minor tributaries & immediate drainage -	176.4	3.1
Totals	539.6	11.4

2. Outlet -

Nottley River	557.0**	11.4

C. Precipitation***:

1. Year of sampling: 194.4 centimeters.

2. Mean annual: 125.4 centimeters.

† Martin and Hanson, 1966.
* For limits of accuracy, see Working Paper No. 175, "...Survey Methods, 1973-1976".
** Includes area of reservoir.
*** See Working Paper No. 175.

III. LAKE WATER QUALITY SUMMARY

Nottely Reservoir was sampled three times during the open-water season of 1972 by means of a pontoon-equipped Huey helicopter. Each time, samples for physical and chemical parameters were collected from three stations on the lake and from a number of depths at each station (see map, page v). During each visit, a single depth-integrated (4.6 m to surface) sample was composited from the three stations for phytoplankton identification and enumeration; and during the first visit, a single 18.9-liter depth-integrated sample was composited for algal assays. Also each time, a depth-integrated sample was collected from each of the stations for chlorophyll a analysis. The maximum depths sampled were 36.6 meters at station 1, 36.0 meters at station 2, and 22.9 meters at station 3.

The results are summarized in the following table and are presented in full in Appendix D.

A. SUMMARY OF PHYSICAL AND CHEMICAL CHARACTERISTICS FOR NOTTELY RESERVOIR
STORET CODE 1311

PARAMETER	1ST SAMPLING (6/27/73) 4 SITES RANGE	MEAN	MEDIAN	2ND SAMPLING (9/12/73) 3 SITES RANGE	MEAN	MEDIAN	3RD SAMPLING (11/12/73) 3 SITES RANGE	MEAN	MEDIAN
TEMP (C)	12.8 - 27.5	19.5	17.8	18.5 - 28.2	22.9	21.7	12.4 - 16.0	15.5	15.9
DISS OXY (MG/L)	3.2 - 10.0	5.2	4.6	0.0 - 8.2	2.9	1.4	6.8 - 8.2	7.4	7.2
CNDCTVY (MCROMO)	50. - 50.	50.	50.	23. - 49.	29.	26.	20. - 23.	21.	21.
PH (STAND UNITS)	5.9 - 7.3	6.4	6.1	5.5 - 6.3	5.9	5.8	6.0 - 6.4	6.3	6.3
TOT ALK (MG/L)	10. - 16.	13.	14.	10. - 16.	11.	10.	10. - 14.	11.	10.
TOT P (MG/L)	0.013 - 0.074	0.033	0.019	0.005 - 0.028	0.011	0.009	0.012 - 0.053	0.021	0.015
ORTHO P (MG/L)	0.002 - 0.012	0.005	0.004	0.002 - 0.008	0.003	0.002	0.003 - 0.011	0.008	0.008
NO2+NO3 (MG/L)	0.060 - 0.290	0.160	0.165	0.020 - 0.120	0.059	0.040	0.060 - 0.080	0.061	0.060
AMMONIA (MG/L)	0.060 - 0.310	0.105	0.085	0.030 - 0.340	0.085	0.040	0.050 - 0.080	0.064	0.070
KJEL N (MG/L)	0.200 - 0.500	0.265	0.200	0.200 - 0.400	0.321	0.200	0.200 - 0.300	0.206	0.200
INORG N (MG/L)	0.120 - 0.510	0.265	0.255	0.050 - 0.380	0.145	0.100	0.110 - 0.150	0.125	0.130
TOTAL N (MG/L)	0.265 - 0.409	0.425	0.433	0.220 - 0.440	0.381	0.320	0.260 - 0.360	0.267	0.260
CHLRPHYL A (UG/L)	3.4 - 9.5	5.4	4.3	7.3 - 13.5	10.0	9.1	2.4 - 5.6	4.0	3.1
SECCHI (METERS)	1.4 - 1.7	1.3	1.7	2.1 - 2.8	2.4	2.4	1.2 - 1.8	1.5	1.4

B. Biological characteristics:

1. Phytoplankton -

Sampling Date	Dominant Genera	Algal units per ml
06/27/73	1. Tabellaria	1,106
	2. Cyclotella	91
	3. Flagellates	91
	4. Anabaena	78
	5. Synedra	65
	Other genera	104
	Total	1,535
09/12/73	1. Chromulina (?)	1,037
	2. Tabellaria	1,010
	3. Lyngbya	1,010
	4. Synedra	491
	5. Flagellates	437
	Other genera	1,173
	Total	5,158
11/12/73	1. Synedra	177
	2. Centric diatoms	177
	3. Tabellaria	157
	4. Flagellates	98
	5. Cryptomonas	79
	Other genera	236
	Total	924

2. Chlorophyll a -

Sampling Date	Station Number	Chlorophyll a (μg/l)
06/26 - 27/73	01	3.9
	02	4.3
	03	9.6
09/12/73	01	7.3
	02	9.1
	03	13.6
11/12/73	01	2.4
	02	3.1
	03	6.6

C. Limiting Nutrient Study:

1. Autoclaved, filtered, and nutrient spiked -

Spike (mg/l)	Ortho P Conc. (mg/l)	Inorganic N Conc. (mg/l)	Maximum yield (mg/l-dry wt.)
Control	0.007	0.139	0.1
0.010 P	0.017	0.139	0.6
0.020 P	0.027	0.139	2.2
0.050 P	0.057	0.139	2.5
0.025 P + 0.5 N	0.032	0.639	6.8
0.050 P + 1.0 N	0.057	1.139	15.8
1.0 N	0.007	1.139	0.1

2. Filtered and nutrient spiked -

Spike (mg/l)	Ortho P Conc. (mg/l)	Inorganic N Conc. (mg/l)	Maximum yield (mg/l-dry wt.)
Control	0.002	0.129	0.1
0.010 P	0.012	0.129	0.1
0.020 P	0.022	0.129	1.8
0.050 P	0.052	0.129	2.1
0.025 P + 0.5 N	0.027	0.629	5.1
0.050 P + 1.0 N	0.052	1.129	14.8
1.0 N	0.002	1.129	0.1

3. Discussion -

The control yields of the assay alga, Selenastrum capricornutum, indicate that the potential primary productivity of Nottely Reservoir was low at the time the sample was taken. Also, increasing yields with increasing concentrations of orthophosphorus indicate that the lake was phosphorus limited at that time. Note that the addition of only nitrogen did not alter the yield as compared to that of the control.

The reservoir data also indicate phosphorus limitation. On all sampling occasions, the mean ratios of inorganic nitrogen to orthophosphorus were 16 to 1 or greater.

IV. NUTRIENT LOADINGS
(See Appendix E for data)

For the determination of nutrient loadings, the Georgia National Guard collected monthly near-surface grab samples from each of the tributary sites indicated on the map (page v), except for the high runoff month of February when two samples were collected. Sampling was begun in March, 1973, and was completed in February, 1974.

Through an interagency agreement, stream flow estimates for the year of sampling and a "normalized" or average year were provided by the Georgia District Office of the U.S. Geological Survey for the tributary sites nearest the lake.

In this report, nutrient loads for sampled tributaries were determined by using a modification of a U.S. Geological Survey computer program for calculating stream loadings*. Nutrient loadings for unsampled "minor tributaries and immediate drainage" ("ZZ" of U.S.G.S.) were estimated by using the means of the nutrient loads, in $kg/km^2/year$, at stations C-1 and D-1 and multiplying the means by the ZZ area in km^2.

The City of Blairsville did not participate in the Survey, and nutrient loads were estimated at 1.134 kg P and 3.401 kg N/capita/year. Also, the Vogel State Park wastewater treatment facility, which discharges to the East Fork of Wolf Creek, was not sampled. However, in

* See Working Paper No. 175.

a recent Georgia Department of Natural Resources report (Anonymous, 1973), the stream was classified as "healthy" at a sampling station less than two miles downstream from the park, so it is not likely that this point source contributes significant amounts of nutrients to Nottely Reservoir.

The only industrial waste source in the drainage, the Joseph Campbell Company, only discharges brine (Anonymous, 1972) and is not believed to be of nutrient significance.

A. Waste Sources†:

1. Known domestic -

Name	Pop. Served	Treatment	Mean Flow (m^3/d)	Receiving Water
Blairsville	491*	stab. pond	170.3*	Butternut Creek
Vogel State Park**	?	?	?	E. Fk., Wolf Creek

2. Known industrial -

Name	Type	Waste and Treatment	Design Flow (m^3/d)	Receiving Water
Joseph Campbell Co., Blairsville	food processing	brine; storage pond	5.3	Butternut Creek

† Anonymous, 1972.
* Population served is 1970 Census; flow estimated at 0.3785 m^3/capita/day.
** Anonymous, 1973.

B. Annual Total Phosphorus Loading - Average Year:

1. Inputs -

Source	kg P/ yr	% of total
a. Tributaries (non-point load) -		
Butternut Creek	365	2.8
Nottely River	5,820	44.6
Youngcane Creek	1,550	11.9
Ivylog Creek	815	6.2
b. Minor tributaries & immediate drainage (non-point load) -	3,615	27.7
c. Known domestic STP's -		
Blairsville	555	4.2
Vogel State Park	insignificant	
d. Septic tanks* -	35	0.3
e. Known industrial -		
J. Campbell Co.	insignificant	
f. Direct precipitation** -	305	2.3
Total	13,060	100.0

2. Outputs -

Lake outlet - Nottely River 8,000

3. Net annual P accumulation - 5,060 kg.

* Estimate based on 121 lakeshore dwellings; see Working Paper No. 175.
** Estimated; see Working Paper No. 175.

C. Annual Total Nitrogen Loading - Average Year:

1. Inputs -

Source	kg N/ yr	% of total
a. Tributaries (non-point load) -		
Butternut Creek	15,200	5.1
Nottely River	151,170	50.8
Youngcane Creek	25,620	8.6
Ivylog Creek	17,300	5.8
b. Minor tributaries & immediate drainage (non-point load) -	66,855	22.4
c. Known domestic STP's -		
Blairsville	1,670	0.6
Vogel State Park	insignificant	
d. Septic tanks* -	1,290	0.4
e. Known industrial -		
J. Campbell Co.	insignificant	
f. Direct precipitation** -	18,740	6.3
Total	297,845	100.0

2. Outputs -

Lake outlet - Nottely River 297,710

3. Net annual N accumulation - 135 kg.

* Estimate based on 121 lakeshore dwellings; see Working Paper No. 175.
** Estimated; see Working Paper No. 175.

D. Mean Annual Non-point Nutrient Export by Subdrainage Area:

Tributary	kg P/km^2/yr	kg N/km^2/yr
Butternut Creek	12	489
Nottely River	27	696
Youngcane Creek	22	358
Ivylog Creek	19	400

E. Yearly Loading Rates:

In the following table, the existing phosphorus loading rates are compared to those proposed by Vollenweider (Vollenweider and Dillon, 1974). Essentially, his "dangerous" rate is the rate at which the receiving water would become eutrophic or remain eutrophic; his "permissible" rate is that which would result in the receiving water remaining oligotrophic or becoming oligotrophic if morphometry permitted. A mesotrophic rate would be considered one between "dangerous" and "permissible".

Note that Vollenweider's model may not be applicable to water bodies with short hydraulic retention times.

	Total Phosphorus		Total Nitrogen	
	Total	Accumulated	Total	Accumulated
grams/m^2/yr	0.75	0.29	17.2	0.3

Vollenweider loading rates for phosphorus (g/m^2/yr) based on mean depth and mean hydraulic retention time of Nottely Reservoir:

"Dangerous" (eutrophic rate)	0.88
"Permissible" (oligotrophic rate)	0.44

V. LITERATURE REVIEWED

Anonymous, 1972. Georgia municipal and industrial wastewater treatment facilities associated with reservoirs. GA Dept. Nat. Resources, Atlanta.

Anonymous, 1973. Water quality investigation of the Tennessee River basin in Georgia. GA Dept. Nat. Resources, Atlanta.

Hall, Edward T., Jr., 1975. Personal communication (review of preliminary report on Nottely Reservoir). GA Dept. Nat. Resources, Atlanta.

Martin, R. O. R., and Ronald L. Hanson, 1966. Reservoirs in the United States. Water Supply Paper 1838, U.S. Geological Survey, Wash., D.C.

Vollenweider, R. A., and P. J. Dillon, 1974. The application of the phosphorus loading concept to eutrophication research. Natl. Res. Council of Canada Publ. No. 13690, Canada Centre for Inland Waters, Burlington, Ontario.

LAKES RANKED BY INDEX NOS.

RANK	LAKE CODE	LAKE NAME	INDEX NO
1	1316	BLUE RIDGE LAKE	524
2	1318	BURTON LAKE	523
3	1303	CHATUGE LAKE	424
4	1311	NOTTELY RESERVOIR	393
5	1310	LAKE SIDNEY LANIER	385
6	1304	CLARK HILL RESERVOIR	309
7	1301	ALLATOONA RESERVOIR	286
8	1302	BLACKSHEAR LAKE	284
9	1313	SINCLAIR LAKE	254
10	1312	LAKE SEMINOLE	253
11	1319	HIGH FALLS LAKE	192
12	1314	LAKE EUFAULA	184
13	1309	JACKSON LAKE	116
14	1317	LAKE HARDING	77

PERCENT OF LAKES WITH HIGHER VALUES (NUMBER OF LAKES WITH HIGHER VALUES)

LAKE CODE	LAKE NAME	MEDIAN TOTAL P	MEDIAN INORG P	SOD- MEAN SEC	MEAN CHLORA	15- MIN DO	MEDIAN DISS P	INDEX NO
1301	ALLATOONA RESERVOIR	62 (8)	54 (7)	46 (6)	31 (4)	31 (0)	62 (7)	285
1302	BLACKSHEAR LAKE	38 (5)	31 (4)	0 (0)	100 (13)	100 (13)	15 (2)	284
1303	CHATUGE LAKE	85 (11)	85 (11)	92 (12)	69 (9)	31 (0)	62 (7)	424
1304	CLARK HILL RESERVOIR	54 (7)	62 (8)	62 (8)	54 (7)	31 (0)	46 (6)	309
1305	JACKSON LAKE	8 (1)	8 (1)	15 (2)	8 (1)	69 (9)	8 (1)	116
1310	LAKE SIDNEY LANIER	69 (9)	46 (6)	77 (10)	77 (10)	31 (0)	85 (10)	385
1311	NOTTELY RESERVOIR	77 (10)	69 (9)	69 (9)	62 (8)	31 (0)	85 (10)	393
1312	LAKE SEMINOLE	31 (4)	15 (2)	38 (5)	46 (6)	92 (12)	31 (4)	253
1313	SINCLAIR LAKE	46 (6)	38 (5)	54 (7)	23 (3)	31 (0)	62 (7)	254
1314	LAKE EUFAULA	15 (2)	23 (3)	31 (4)	15 (2)	77 (10)	23 (3)	184
1316	BLUE RIDGE LAKE	92 (12)	92 (12)	85 (11)	85 (11)	85 (11)	85 (10)	524
1317	LAKE HARDING	0 (0)	0 (0)	8 (1)	38 (5)	31 (0)	0 (0)	77
1318	HORTON LAKE	100 (13)	100 (13)	100 (13)	92 (12)	31 (0)	100 (13)	523
1319	HIGH FALLS LAKE	23 (3)	77 (10)	23 (3)	0 (0)	31 (0)	38 (5)	192

LAKE DATA TO BE USED IN RANKINGS

LAKE CODE	LAKE NAME	MEDIAN TOTAL P	MEDIAN INORG N	500-MEAN SEC	MEAN CHLORA	15-MIN DO	MEDIAN DISS P
1301	ALLATOONA RESERVOIR	0.020	0.150	443.167	7.489	14.900	0.005
1302	BLACKSHEAR LAKE	0.035	0.250	468.091	1.855	11.700	0.014
1303	CHATUGE LAKE	0.014	0.110	382.778	6.339	14.900	0.005
1304	CLARK HILL RESERVOIR	0.024	0.150	439.250	6.715	14.900	0.007
1309	JACKSON LAKE	0.094	0.530	461.385	14.577	14.800	0.027
1310	LAKE SIDNEY LANIER	0.016	0.180	396.417	5.431	14.900	0.004
1311	NOTTELY RESERVOIR	0.015	0.130	405.667	6.656	14.900	0.004
1312	LAKE SEMINOLE	0.040	0.405	456.133	6.760	11.800	0.010
1313	SINCLAIR LAKE	0.028	0.230	440.667	8.006	14.900	0.005
1314	LAKE EUFAULA	0.048	0.345	457.667	9.083	14.400	0.011
1316	BLUE RIDGE LAKE	0.010	0.105	394.889	3.078	13.000	0.004
1317	LAKE HARDING	0.114	0.640	467.538	7.438	14.900	0.045
1318	BURTON LAKE	0.007	0.100	363.889	2.733	14.900	0.003
1319	HIGH FALLS LAKE	0.047	0.115	459.444	15.075	14.900	0.009

CONVERSION FACTORS

Hectares x 2.471 = acres

Kilometers x 0.6214 = miles

Meters x 3.281 = feet

Cubic meters x 8.107×10^{-4} = acre/feet

Square kilometers x 0.3861 = square miles

Cubic meters/sec x 35.315 = cubic feet/sec

Centimeters x 0.3937 = inches

Kilograms x 2.205 = pounds

Kilograms/square kilometer x 5.711 = lbs/square mile

TRIBUTARY FLOW INFORMATION FOR GEORGIA 12/2/75

LAKE CODE 1311 NOTTELY LAKE

TOTAL DRAINAGE AREA OF LAKE(SQ KM) 556.8

NORMALIZED FLOWS(CMS)

TRIBUTARY	SUB-DRAINAGE AREA(SQ KM)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1311A1	31.1	0.59	0.74	0.79	0.74	0.62	0.51	0.48	0.37	0.31	0.31	0.40	0.48	0.53
1311B1	217.3	7.16	9.03	9.85	8.69	6.46	4.42	3.96	3.48	2.75	2.97	3.51	5.27	5.61
1311B2	556.8	10.82	9.37	8.27	12.40	15.09	16.48	14.44	16.91	14.58	7.14	3.48	8.10	11.44
1311C1	71.5	1.67	2.01	2.18	1.95	1.53	1.13	1.08	0.99	0.85	0.88	0.96	1.30	1.37
1311D1	43.3	0.88	1.08	1.16	1.10	0.91	0.76	0.65	0.54	0.45	0.45	0.54	0.65	0.76
1311ZZ	176.4	4.47	3.82	4.47	4.16	3.48	2.72	2.78	2.35	1.76	1.47	2.15	3.82	3.12

SUMMARY

TOTAL DRAINAGE AREA OF LAKE = 556.8 TOTAL FLOW IN = 137.08
SUM OF SUB-DRAINAGE AREAS = 539.5 TOTAL FLOW OUT = 137.08

NOTE *** LAKE AREA=6.7 SQ MI. NOT INCLUDED IN SUM ON SUB-DRAINAGE AREAS

MEAN MONTHLY FLOWS AND DAILY FLOWS(CMS)

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
1311A1	3	73	0.85	21	0.85				
	4	73	0.76	15	0.54				
	5	73	1.36	13	0.88				
	6	73	0.93	21	0.82				
	7	73	0.71	14	0.74				
	8	73	0.65	3	0.59				
	9	73	0.48	18	0.59				
	10	73	0.42	13	0.40				
	11	73	0.57	12	0.23				
	12	73	0.96	22	0.45				
	1	74	1.10	1	1.44	20	0.71		
	2	74	1.19	12	0.88	27	0.82		
1311B1	3	73	14.02	21	13.88				
	4	73	11.78	15	8.24				
	5	73	15.45	13	9.85				
	6	73	11.02	21	9.71				
	7	73	5.80	14	5.97				
	8	73	4.33	3	3.88				
	9	73	3.34	18	4.16				
	10	73	2.66	13	2.44				
	11	73	5.30	12	2.15				
	12	73	13.00	22	6.23				
	1	74	14.61	1	34.55	20	9.40		
	2	74	16.82	11	12.37	27	11.47		

LAKE CODE 1311 NOTTELY LAKE

MEAN MONTHLY FLOWS AND DAILY FLOWS(CMS)

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
1311H2	3	73	8.07	21	8.72				
	4	73	6.00	15	0.37				
	5	73	14.38	13	5.18				
	6	73	24.95	21	19.62				
	7	73	14.19	14	1.76				
	8	73	19.37	3	17.16				
	9	73	17.53	18	19.37				
	10	73	14.61	13	0.42				
	11	73	17.61	12	28.20				
	12	73	22.03	22	11.21				
	1	74	27.01	1	24.66	20	19.60		
	2	74	30.30	11	33.70	27	28.18		
1311C1	3	73	1.93	21	1.90				
	4	73	1.73	15	1.22				
	5	73	3.14	13	2.01				
	6	73	2.12	21	1.87				
	7	73	1.64	14	1.70				
	8	73	1.50	3	1.33				
	9	73	1.13	18	1.42				
	10	73	0.93	13	0.85				
	11	73	1.27	12	0.99				
	12	73	2.12	22	1.02				
	1	74	2.52	1	3.28	20	1.61		
	2	74	2.69	11	1.98	27	1.84		
1311D1	3	73	1.16	21	1.16				
	4	73	1.05	15	0.74				
	5	73	1.90	13	1.22				
	6	73	1.30	21	1.16				
	7	73	0.99	14	1.02				
	8	73	0.91	3	0.82				
	9	73	0.68	18	0.85				
	10	73	0.54	13	0.48				
	11	73	0.75	12	0.31				
	12	73	1.27	22	0.62				
	1	74	1.53	1	1.98	20	0.99		
	2	74	1.64	11	1.22	27	1.10		
1311Z2	3	73	4.79						
	4	73	4.28						
	5	73	7.76						
	6	73	5.27						
	7	73	4.05						
	8	73	3.71						
	9	73	2.80						
	10	73	2.32						
	11	73	3.17						
	12	73	5.35						
	1	74	6.20						
	2	74	6.65						

APPENDIX D

PHYSICAL and CHEMICAL DATA

STORET RETRIEVAL DATE 74/11/26

131101
34 57 27.0 084 05 27.0
NOTTELY RESERVOIR
13291 GEORGIA

11EPALES
3

2111202
0085 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
73/06/27	15 00	0000	27.5		144	50K	7.00	14	0.080	0.500	0.060	0.003
	15 00	0006	27.4	10.0		50K	7.30	14	0.070	0.400	0.070	0.003
	15 00	0015	20.5	8.5		50K	6.60	14	0.060	0.300	0.070	0.003
	15 00	0030	17.7	3.5		50K	6.10	13	0.110	0.200	0.160	0.003
	15 00	0050	16.0	4.9		50K	6.20	12	0.090	0.200K	0.160	0.003
	15 00	0065	15.2	5.4		50K	6.20	12	0.090	0.200K	0.190	0.004
	15 00	0081	14.4	5.9		50K	6.30	13	0.060	0.200K	0.200	0.004
73/09/12	13 50	0000	26.7	7.4	111	25	6.10	10K	0.050	0.800	0.040	0.006
	13 50	0015	26.4	7.0		24	6.00	10K	0.030	0.200	0.020	0.004
	13 50	0025	23.4	1.4		26	5.70	10K	0.030	0.200K	0.030	0.004
	13 50	0040	21.7	0.0		26	5.60	10	0.040	0.200K	0.050	0.002
	13 50	0060	20.5	0.1		26	5.60	10K	0.060	0.200K	0.040	0.002
	13 50	0085	19.4	0.1		25	5.60	10	0.070	0.200K	0.060	0.002
73/11/12	11 30	0000	16.0		72	22	6.30	10	0.080	0.300	0.060	0.007
	11 30	0005	16.0	7.0		22	6.30	12	0.070	0.200K	0.060	0.007
	11 30	0015	16.0	6.8		22	6.20	11	0.070	0.200K	0.060	0.006
	11 30	0030	16.0	7.0		22	6.00	12	0.070	0.200K	0.060	0.007
	11 30	0060	16.0	7.4		22	6.10	13	0.070	0.200K	0.060	0.005
	11 30	0090	16.0	7.0		23	6.20	13	0.070	0.200K	0.060	0.005
	11 30	0120	15.9	7.2		23	6.40	14	0.070	0.200K	0.060	0.003

STORET RETRIEVAL DATE 74/11/26

131101
34 57 27.0 084 05 27.0
NOTTELY RESERVOIR
13291 GEORGIA

11EPALES 2111202
3 0085 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L
73/06/27	15 00	0000	0.014	3.9
	15 00	0006	0.026	
	15 00	0015	0.019	
	15 00	0030	0.016	
	15 00	0050	0.012	
	15 00	0065	0.010	
	15 00	0081	0.011	
73/09/12	13 50	0000	0.012	7.3
	13 50	0015	0.007	
	13 50	0035	0.009	
	13 50	0040	0.005	
	13 50	0060	0.005	
	13 50	0085	0.006	
73/11/12	11 30	0000	0.015	2.4
	11 30	0005	0.014	
	11 30	0015	0.013	
	11 30	0030	0.016	
	11 30	0060	0.012	
	11 30	0090	0.015	
	11 30	0120	0.053	

STORET RETRIEVAL DATE 74/11/26

131102
34 56 06.0 084 05 32.0
NOTTELY RESERVOIR
13291 GEORGIA

11EPALES
3

2111202
0122 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
73/06/27	15 50	0000	27.6		144	50K	7.20	16	0.080	0.400	0.060	0.002
	15 50	0006	26.8	9.1		50K	7.30	14	0.080	0.300	0.070	0.004
	15 50	0015	21.3	3.5		50K	6.00	14	0.080	0.200K	0.150	0.012
	15 50	0030	17.8	2.3		50K	5.90	14	0.080	0.200	0.170	0.004
	15 50	0050	16.1	4.3		50K	6.00	13	0.060	0.200K	0.230	0.007
	15 50	0075	14.6	5.2		50K	6.10	14	0.090	0.200	0.240	0.005
	15 50	0100	13.3	4.2		50K	6.00	15	0.130	0.200	0.290	0.004
	15 50	0118	12.8	3.9		50K	6.00					
73/09/12	14 50	0000	27.6	7.6	96	26	6.20	10K	0.040	0.300	0.030	0.003
	14 50	0015	26.6	8.0		25	6.20	10K	0.030	0.200	0.030	0.003
	14 50	0030	22.8	0.1		27	5.70	10K	0.030	0.200K	0.060	0.002
	14 50	0045	21.5	0.5		27	5.70	10	0.040	0.200K	0.120	0.002
	14 50	0065	20.3	0.1		23	5.60	10	0.040	0.200K	0.110	0.002
	14 50	0085	19.4	0.1		29	5.60	10	0.040	0.200K	0.120	0.002
	14 50	0107	18.5	0.0		49	5.90	15	0.340	0.600	0.030	0.002K
73/11/12	12 00	0000	16.0		56	22	6.20	14	0.060	0.200K	0.060	0.009
	12 00	0005	16.0	7.2		21	6.20	11	0.060	0.200K	0.060	0.010
	12 00	0015	15.9	7.2		21	6.20	10K	0.060	0.200K	0.060	0.008
	12 00	0040	15.9	7.0		21	6.20	10	0.060	0.200K	0.060	0.011
	12 00	0090	15.2	7.2		21	6.30	10K	0.070	0.200K	0.060	0.010

K= VALUE KNOWN TO BE LESS
THAN INDICATED

STORET RETRIEVAL DATE 74/11/26

131102
34 56 06.0 084 05 32.0
NOTTELY RESERVOIR
13291 GEORGIA

11EPALES 2111202
3 0122 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L
73/06/27	15 50	0000	0.013	4.3
	15 50	0006	0.018	
	15 50	0015	0.021	
	15 50	0030	0.021	
	15 50	0050	0.023	
	15 50	0075	0.019	
	15 50	0100	0.035	
73/09/12	14 50	0000	0.007	9.1
	14 50	0015	0.008	
	14 50	0030	0.008	
	14 50	0045	0.006	
	14 50	0065	0.025	
	14 50	0085	0.008	
	14 50	0107	0.010	
73/11/12	12 00	0000	0.015	3.1
	12 00	0005	0.015	
	12 00	0015	0.013	
	12 00	0040	0.019	
	12 00	0090	0.028	

STORET RETRIEVAL DATE 74/11/26

131103
34 53 40.0 084 03 10.0
NOTTELY RESERVOIR
13291 GEORGIA

11EPALES 2111202
3 0079 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
73/06/26	16 30	0000	27.1		96	50K	7.30	11	0.090	0.400	0.070	0.004
	16 30	0006	26.5	8.0		50K		10	0.060	0.200	0.060	0.005
	16 30	0015	20.8	4.2		50K	6.10	13	0.110	0.200	0.230	0.007
	16 30	0030	18.0	4.0		50K	6.10	12	0.160	0.200K	0.250	0.005
	16 30	0050	16.0	5.0		50K	6.10	11	0.210	0.200	0.270	0.007
	16 30	0075	14.7	2.2		50K	6.20	14	0.310	0.400	0.200	0.005
73/09/12	15 40	0000	28.2	8.2	82	26	6.50	10K	0.060	0.400	0.030	0.003
	15 40	0015	26.7	7.8		25	6.30	10K	0.040	0.400	0.030	0.003
	15 40	0025	23.0	2.3		29	5.80	11	0.050	0.200	0.070	0.002
	15 40	0040	21.5	2.2		30	5.80	12	0.140	0.300	0.100	0.002
	15 40	0050	20.9	2.0		29	5.80	11	0.150	0.300	0.120	0.003
	15 40	0062	20.3	0.0		41	6.00	16	0.340	0.800	0.040	0.008
73/11/12	12 26	0000	15.3		48	20	6.40	10K	0.050	0.200K	0.060	0.008
	12 26	0005	15.3	8.0		20	6.40	10K	0.050	0.200	0.060	0.009
	12 26	0015	15.2	8.0		21	6.40	10K	0.050	0.200K	0.060	0.008
	12 26	0030	15.1	8.0		20	6.40	10K	0.050	0.200K	0.060	0.011
	12 26	0050	12.4	8.2		21	6.40	10K	0.070	0.200	0.080	0.011

K# VALUE KNOWN TO BE LESS
THAN INDICATED

STORET RETRIEVAL DATE 74/11/26

131103
34 53 40.0 084 03 10.0
NOTTELY RESERVOIR
13291 GEORGIA

11PALES 2111202
3 0079 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L
73/06/26	16 30	0000	0.015	9.6
	16 30	0005	0.019	
	16 30	0015	0.029	
	16 30	0030	0.032	
	16 30	0050	0.036	
	16 30	0075	0.074	
73/09/12	15 40	0000	0.009	13.6
	15 40	0015	0.012	
	15 40	0025	0.015	
	15 40	0040	0.016	
	15 40	0050	0.016	
	15 40	0063	0.028	
73/11/12	12 26	0000	0.015	6.6
	12 26	0005	0.023	
	12 26	0015	0.014	
	12 26	0030	0.021	
	12 26	0050	0.052	

APPENDIX E

TRIBUTARY DATA

STORET RETRIEVAL DATE 75/12/02

1311A1 1311A1
34 52 30.0 083 58 09.0
BUTTERNUT CREEK
13139 7.5 BLAIRSVILLE
T/NOTTELY LAKE
RT 11 BRDG W OF BLAIRSVILLE
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/21	11 30		0.220	0.500	0.056	0.008	0.025
73/04/15	10 00		0.138	1.540	0.115	0.008	0.015
73/05/13	16 00		0.100	0.500	0.048	0.010	0.020
73/06/21	13 00		0.150	0.270	0.063	0.006	0.025
73/07/14	09 30		0.138	0.130	0.010	0.006	0.020
73/09/18	11 00		0.126	0.855	0.420	0.023	0.145
73/10/13	16 00		0.072	2.600	1.790	0.015	0.040
73/11/12	11 20		0.105	0.100K	0.011	0.006	0.010
73/12/22	15 25		0.232	2.900	0.032	0.005K	0.020
74/01/20	17 30		0.180	0.100K	0.010	0.015	0.030
74/02/12	14 00		0.184	0.100	0.020	0.005	0.012
74/02/27	11 30		0.216	0.300	0.025	0.010	0.040

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 75/12/02

131181 131181
34 51 30.0 083 58 30.0
NOTTELY CREEK
13 7.5 COOSA BALD
T/NOTTELY LAKE
US 76 BRDG SSW OF BLAIRSVILLE
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/21	14	30	0.190	1.680	0.080	0.005K	0.020
73/04/15	13	00	0.140	1.940	0.084	0.005K	0.010
73/06/21	16	00	0.138	0.210	0.030	0.006	0.045
73/07/14	14	00	0.120	0.130	0.022	0.005K	0.015
73/08/03	12	20	0.150	0.140	0.035	0.007	0.030
73/09/18	12	15	0.110	0.170	0.022	0.006	0.035
73/10/13	13	50	0.068	0.450	0.048	0.012	0.035
73/11/12	12	30	0.084	0.200	0.016	0.005K	0.005K
73/12/22	16	00	0.176	1.000	0.016	0.005K	0.010
74/01/20	14	30	0.104	2.800	0.550	0.010	0.030
74/02/11	11	00	0.252	0.200	0.025	0.005	0.025
74/02/27	14	30	0.208	0.100K	0.040	0.005	0.150

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 75/12/02

131182 131182
34 58 00.0 084 05 30.0
NOTTELY RIVER
13 7.5 NOTTELY DAM
O/NOTTELY LAKE
GAGING STATION BELO NOTTELY DAM
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/21	12	30	0.189	1.100	0.069	0.005K	0.015
73/04/15	11	30	0.180	3.000	0.115	0.005K	0.020
73/05/13	16	35	0.210	1.200	0.330	0.006	0.010
73/06/21	14	25	0.240	0.180	0.054	0.005K	0.010
73/07/14	13	00	0.210	0.220	0.025	0.008	0.035
73/08/03	11	20	0.210	0.220	0.092	0.008	0.045
73/09/18	11	30	0.030	1.260	0.420	0.005K	0.012
73/10/13	13	00	0.040	0.600	0.168	0.009	0.030
73/11/12	11	45	0.042	0.150	0.050	0.006	0.006
73/12/22	14	25	0.116	0.200	0.005K	0.005K	0.010
74/01/20	15	10	0.136	0.200	0.015	0.005	0.010
74/02/11	12	10	0.184	0.300	0.040	0.005	0.035
74/02/27	12	40	0.192	0.800	0.070	0.010	0.065

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 75/12/02

1311C1 1311C1
34 52 30.0 084 04 00.0
YOUNGCANE CREEK
13 7.5 NOTTELY DAM
T/NOTTELY LAKE
BRDG ON RD .8 MI E OF CONFIDENCE CHURCH
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/21	13	15	0.240	1.470	0.037	0.006	0.025
73/04/15	13	00	0.147	1.760	0.068	0.009	0.015
73/05/13	17	25	0.088	0.460	0.058	0.007	0.020
73/06/21	15	30	0.126	0.160	0.017	0.010	0.040
73/07/14	10	00	0.154	0.635	0.039	0.014	0.110
73/08/03	11	50	0.147	0.100K	0.034	0.010	0.030
73/10/13	14	50	0.079	0.250	0.080	0.012	0.040
73/11/12	12	05	0.096	0.100K	0.026	0.006	0.010
73/12/22	14	05	0.188	0.200	0.006	0.005K	0.010
74/01/20	16	55	0.156	0.100K	0.030	0.010	0.025
74/02/11	13	00	0.200	0.200	0.015	0.010	0.020
74/02/27	13	10	0.168	0.200	0.020	0.005	0.100

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 75/12/02

131101 131101
34 56 00.0 084 01 00.0
IVYLOG CREEK
13 7.5 NOTTELY DAM
T/NOTTELY LAKE
BRDG ON RD N OF GUMLOG RD
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/21	11	50	0.100	0.187	0.015	0.005K	0.015
73/04/15	10	30	0.064	4.500	0.115	0.005K	0.010
73/05/13	16	15	0.042	1.260	0.060	0.005K	0.015
73/06/21	13	45	0.052	0.100K	0.019	0.008	0.010
73/07/14	12	45	0.115	0.440	0.026	0.013	0.090
73/08/03	10	55	0.069	0.150	0.030	0.005K	0.020
73/09/18	11	15	0.046	0.150	0.031	0.005K	0.020
73/10/13	13	25	0.034	0.300	0.032	0.017	0.030
73/11/12	11	30	0.036	0.200	0.014	0.016	0.016
73/12/22	15	00	0.136	0.100K	0.016	0.005K	0.020
74/01/20	14	30	0.068	0.100K	0.015	0.010	0.010
74/02/11	11	20	0.148	0.600	0.035	0.025	0.150
74/02/27	12	05	0.074	0.800	0.035	0.005	0.055

K VALUE KNOWN TO BE
LESS THAN INDICATED